Allied Telesyn

Simply connecting the IP world

AT-MC105XL
AT-MC106XL

Fast Ethernet Media Converters

Installation Guide

PN 613-10800-00 Rev B

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960 Stewart Drive Suite B, Sunnyvale CA 94086 USA

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Electrical Safety and Emission Compliance Statement

Standards: This product meets the following standards.

U.S. Federal Communications Commission	
Declaration Of Conformity	
Manufacture Name:	Allied Telesyn, Inc.
Manufacture Address:	960 Stewart Drive, Suite B Sunnyvale, CA 94085 USA
Manufacture Telephone:	408-730-0950
Declares that the product:	Ethernet Media Converters
Model Numbers:	AT-MC105XL, AT-MC106XL

This product complies with FCC Part 15B, Class B Limits:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radiated Energy

Note: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

Industry Canada

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

RFI Emission EN55022 Class B **1**

Warning: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. **2**

Immunity EN55024 **3**

Warning: This product requires shielded cables to comply with emission and immunity standards. If it is used with unshielded cables, the user may be required to take measures to correct the interference problem at their own expense. **4**

Electrical Safety TUV-EN60950, UL60950 (UL/cUL) **5**

Laser/LED EN60825 ☍ **6**

Important: Appendix B contains translated safety statements for installing this equipment. When you see the ☍, go to Appendix B for the translated safety statement in your language.

Wichtig: Anhang B enthält übersetzte Sicherheitshinweise für die Installation dieses Geräts. Wenn Sie ☍ sehen, schlagen Sie in Anhang B den übersetzten Sicherheitshinweis in Ihrer Sprache nach.

Vigtigt: Tillæg B indeholder oversatte sikkerhedsadvarsler, der vedrører installation af dette udstyr. Når De ser symbolet ☍, skal De slå op i tillæg B og finde de oversatte sikkerhedsadvarsler i Deres eget sprog.

Belangrijk: Appendix B bevat vertaalde veiligheidsopmerkingen voor het installeren van deze apparatuur. Wanneer u de ☍ ziet, raadpleeg Appendix B voor vertaalde veiligheidsinstructies in uw taal.

Important: L'annexe B contient les instructions de sécurité relatives à l'installation de cet équipement. Lorsque vous voyez le symbole ☍, reportez-vous à l'annexe B pour consulter la traduction de ces instructions dans votre langue.

Tärkeää: Liite B sisältää tämän laitteen asentamiseen liittyvät käännetyt turvaohjeet. Kun näet ☍-symbolin, katso käännettyä turvaohjetta liitteestä B.

Importante: l'Appendice B contiene avvisi di sicurezza tradotti per l'installazione di questa apparecchiatura. Il simbolo ☍, indica di consultare l'Appendice B per l'avviso di sicurezza nella propria lingua.

Viktig: Tillegg B inneholder oversatt sikkerhetsinformasjon for installering av dette utstyret. Når du ser ☍, åpner du til Tillegg B for å finne den oversatte sikkerhetsinformasjonen på ønsket språk.

Importante: O Anexo B contém advertências de segurança traduzidas para instalar este equipamento. Quando vir o símbolo ☍, leia a advertência de segurança traduzida no seu idioma no Anexo B.

Importante: El Apéndice B contiene mensajes de seguridad traducidos para la instalación de este equipo. Cuando vea el símbolo ☍, vaya al Apéndice B para ver el mensaje de seguridad traducido a su idioma.

Obs! Bilaga B innehåller översatta säkerhetsmeddelanden avseende installationen av denna utrustning. När du ser ☍, skall du gå till Bilaga B för att läsa det översatta säkerhetsmeddelandet på ditt språk.

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Welcome to Allied Telesyn

This guide contains instructions on how to install the AT-MC105XL and AT-MC106XL Fast Ethernet Media Converters.

Where to Find Related Guides

The Allied Telesyn web site at **www.alliedtelesyn.com** offers you an easy way to access the most recent documentation, software, and technical information for all of our products. For product guides, select "Support & Services" from our web site.

Document Conventions

This guide uses several conventions that you should become familiar with before installing the product.

Note
Notes provide additional information.

Caution
Cautions informs you that performing or omitting a specific action may result in equipment damage or loss of data.

Warning
Warnings informs you that performing or omitting a specific action may result in bodily injury.

Contacting Allied Telesyn Technical Support

You can contact Allied Telesyn technical support online or by telephone or e-mail.

Online Support

You can request technical support online by accessing the Knowledge Base at **www.kb.alliedtelesyn.com**. You can use the Knowledge Base to submit questions to our technical support staff and review answers to previously asked questions.

Telephone Support

For technical support by phone, contact Allied Telesyn at one of the following locations:

Americas
United States, Canada, Mexico, Central America, South America
Tel: 1 (800) 428-4835

Asia
Singapore, Taiwan, Thailand, Malaysia, Indonesia, Korea, Philippines, China, India, Hong Kong
Tel: (+65) 3815-612

Australia
Tel: 1 (800) 000-880

France
France, Belgium, Luxembourg, The Netherlands, Middle East, Africa
Tel: (+33) 0-1-60-92-15-25

Germany
Germany, Switzerland, Austria, Eastern Europe
Tel: (+49) 30-435-900-126

Italy
Italy, Spain, Portugal, Greece, Turkey, Israel
Tel: (+39) 02-41-30-41

Japan
Tel: (+81) 3-3443-5640

United Kingdom
United Kingdom, Denmark, Norway, Sweden, Finland
Tel: (+0044) 1235-442500

E-mail Support

Latin America, Mexico, Puerto Rico, Caribbean, and Virgin Islands
latin_america@alliedtelesyn.com

Europe
support_europe@alliedtelesyn.com

Returning Products

Products for return or repair must first be assigned a Return Materials Authorization (RMA) number. A product sent to Allied Telesyn without a RMA number will be returned to the sender at the sender's expense.

To obtain an RMA number, contact Allied Telesyn's Technical Support at one of the following locations:

North America
Toll-free: 1-800-762-1664
Fax: 1-425-806-1050

Europe, Africa, and the Middle East
Tel: +44-1793-501401
Fax: +44-1793-431099

Latin America, the Caribbean, and Virgin Islands
Tel: international code + 425-481-3852
Fax: international code + 425-481-3895

Puerto Rico
Tel: 1-800-424-5012, ext 3852 or
1-800-424-4284, ext 3852

Mexico
Toll-free: 800-424-5012, ext 3852
Fax: international code + 425-481-3895

Asia and Southeast Asia
Tel: +65-381-5612
Fax: +65-383-3830

Australia
Toll-free: 1-800-000-880
Fax: +61-2-9438-4966

New Zealand
Toll-free: 0800-45-5782

FTP Server

If you need management software for an Allied Telesyn managed device and you know the file name of the software, you can download the software by connecting directly to our FTP server at **ftp.alliedtelesyn.com**. At login, enter 'anonymous' as the user name and your e-mail address for the password.

For Sales or Corporate Information

You can contact Allied Telesyn for sales or corporate information at the location listed below:

Allied Telesyn, Inc.
19800 North Creek Parkway, Suite 200
Bothell, WA 98011
Tel: 1 (425) 487-8880
Fax: 1 (425) 489-9191

Tell Us What You Think

If you have any comments or suggestions on how we might improve this or other Allied Telesyn documents, please fill out the General Enquiry Form online. This form can be accessed by selecting “Contact Us” from **www.alliedtelesyn.com**.

Chapter 1
Overview

The AT-MC105XL and AT-MC106XL are Fast Ethernet media converters designed to convert Ethernet data between 100Base-TX twisted pair cabling and 100Base-SX multimode fiber optic cabling. These media converters allow you to extend the distance of your network up to 300 meters (984 feet).

The AT-MC105XL and AT-MC106XL media converters have a 100Base-TX twisted pair port and a 100Base-SX fiber optic port. The twisted pair port has an RJ-45 connector and a maximum operating distance of 100 meters (328 feet). The fiber optic port has a either a SC or ST connector and a maximum operating distance of 300 meters (984 feet). Both ports operate at 100 Mbps and features half- or full-duplex operation.

The AT-MC105XL and AT-MC106XL media converters can be used on a desktop or in an AT-MCR12 chassis. These units are easy to install and do not require software configuration or management.

Figure 1 illustrates an AT-MC105XL media converter.

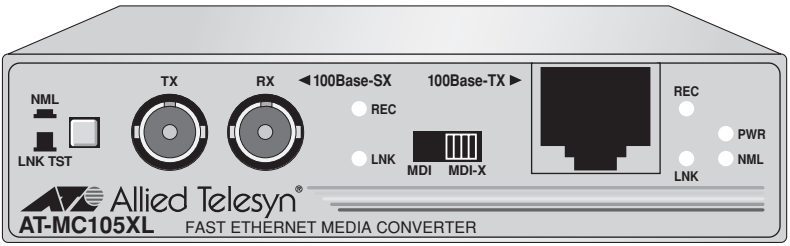

Figure 1 AT-MC105XL Front Panel (ST Connector)

Figure 2 illustrates an AT-MC106XL media converter.

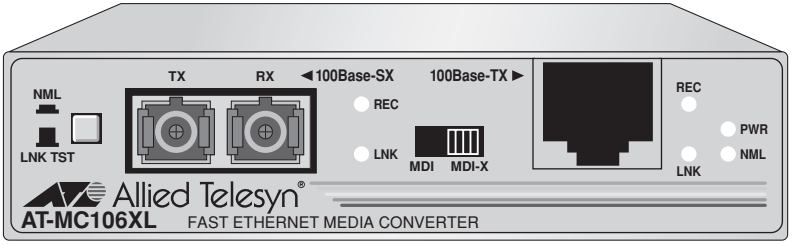

Figure 2 AT-MC106XL Front Panel (SC Connector)

Table 1 lists the maximum operating distances for the AT-MC105XL and AT-MC106XL media converters.

Table 1 Maximum Operating Distances

Model	100Base-TX		100Base-SX[1]	
	Connector	Maximum Operating Distance	Connector	Maximum Operating Distance
AT-MC105XL	RJ-45	100 m (328 ft)	ST	300 m (984 ft)
AT-MC106XL	RJ-45	100 m (328 ft)	SC	300 m (984 ft)

1. Maximum operating distance may be less depending on the duplex mode of the end-nodes and the type of fiber optic cabling used with the port.

Key Features

The media converters have the following key features:

- LEDs for unit and port status
- Half- or full-duplex mode operation on both ports
- MissingLink™ notifies end-nodes of link failures
- MDI/MDI-X switch that eliminates the need for a crossover cable
- NML/LNK TST button that performs a link test on the media converter
- External AC/DC power adapters (North America, Continental, or Europe)
- Standard size for use on a desktop or in an AT-MCR12 rackmount chassis

Status LEDs

Table 2 lists the LEDs for the media converters.

Table 2 AT-MC105XL and AT-MC106XL LEDs

LED	Color	Description
PWR	Green	Power is applied to the media converter.
NML	Green	The media converter is operating in normal mode.
	OFF	The media converter is operating in link test mode.
LNK	Green	A valid link has been established on the port.
	OFF	A link has not been detected on the port.
	Blinking	The port is either receiving or transmitting data.
REC	Green	The port is either receiving or transmitting data.
	OFF	The port is not receiving or transmitting data.

External Power Adapter

An external AC/DC power adapter is provided with the media converter for use on a desktop. The power adapter supplies 12 V DC to the media converter. Allied Telesyn supplies an approved safety compliant AC power adapter for the 120 V AC and 240 V AC versions with an unregulated output of 12 V DC at 1 A. The power required for the media converter is 12 V DC, 500 mA.

MDI/MDI-X Switch

An RJ-45 port on a 10 Mbps Ethernet network device can have one of two possible wiring configurations: MDI or MDI-X. The RJ-45 port on a PC, router or bridge is typically wired as MDI, while the twisted pair port on a switch or hub is usually MDI-X.

To connect two 10 Mbps network devices together that have dissimilar port wiring configurations, such as MDI to MDI-X, you use a straight-through cable. To connect two network devices that have an RJ-45 port with the same wiring configuration, such as MDI to MDI, you use a crossover cable.

The RJ-45 port on the media converters features an MDI/MDI-X switch. You can use this switch to configure the twisted pair port on the media converter as either MDI or MDI-X. This feature allows you to use either a straight-through or crossover cable when connecting a device to the port.

NML/LNK TST Switch

The NML/LNK TST (Normal MissingLink/Link Test) button allows you to perform a link test on the ports on the media converter. This button also allows you to activate the MissingLink feature on the unit. The MissingLink and Link Test features are describe below.

MissingLink. The MissingLink feature allows the ports on the media converter to pass the “Link” status of their connections to each other. When the media converter detects a problem with one of the ports, such as the loss of connection to a node, the media converter shuts down the connection to the other port, thus notifying the node that the connection has been lost.

For example, if the twisted pair cable to the AT-MC105XL were to fail, the media converter would respond by dropping the link on the fiber optic port. In this way, the AT-MC105XL notifies the end-node connected to the fiber optic port that the connection on the twisted pair port has been lost. If the failure had started with the fiber optic cabling, the media converter would drop the link to the twisted pair port.

The value to this type of network monitoring and fault notification is that some hubs and switches can be configured to take a specific action in the event of the loss of connection on a port. In some cases, the unit can be configured to seek a redundant path to a disconnected end-node or send out a trap to a network management station, and so alert the network administrator of the problem.

Note
The MissingLink feature is disabled when you perform a link test with the NML/LNK TST button. Consequently, to ensure that the MissingLink feature is activated on the media converter, always set the button to the NML (IN) position during normal network operations.

Link Test. A link test is a fast and easy way for you to test the connections between the ports on the media converter and the end-nodes that are connected to the ports. If a network problem occurs, you can perform a link test to determine which port is experiencing a problem, and so be able to focus on the cable and end-node where the problem resides.

A link test is performed when the NML/LNK TST button is in the LNK TST (OUT) position.

Note
Performing a link test does not interfere with a media converter's ability to pass network traffic.

Auto-negotiation

Auto-negotiation determines the duplex mode of the ports. The duplex mode refers to the manner in which an end-node sends and receives data on the network. An end-node can operate in either half- or full-duplex mode, depending on its capabilities. An end-node operating in half-duplex can either send or receive data, but not both at the same time, while an end-node operating in full-duplex can send and receive data simultaneously. Best network performance is achieved when an end-node can operate in full-duplex mode.

The AT-MC105XL and AT-MC106XL media converters can operate in either full- or half-duplex mode. However, the end-nodes connected to these media converters must operate in the same duplex mode to avoid a duplex mode mismatch, which can result in poor network performance.

Figure 3 shows an example of a duplex mode mismatch. A repeater (Unit 1), capable of operating in half-duplex mode only, is connected to the 100Base-SX port on the media converter, while a switch (Unit 2), capable of either half- or full-duplex mode, is connected to the 100Base-TX port on the media converter.

Figure 3 Example of a Duplex Mode Mismatch

In attempting to auto-negotiate with Unit 1, the media converter will determine that the repeater is capable of half-duplex only and will set the port connected to the unit appropriately. In auto-negotiating with Unit 2, the media converter will determine that the switch can manage full-duplex and will set the port connected to the switch to full-duplex. The result is a duplex mode mismatch, with one unit operating in half-duplex and the other unit operating in full-duplex. You could resolve this duplex mode mismatch by manually configuring Unit 2, if possible, so that the port connected to the media converter is set to half-duplex.

Network Topologies

The AT-MC105XL and AT-MC106XL media converters can be used in two different topologies: standalone and back-to-back. Both types of topologies are described below.

Standalone Topology

A standalone topology uses one media converter between the end-nodes. Figure 4 illustrates a standalone topology that uses an AT-MC105XL media converter to connect a workstation and a switch.

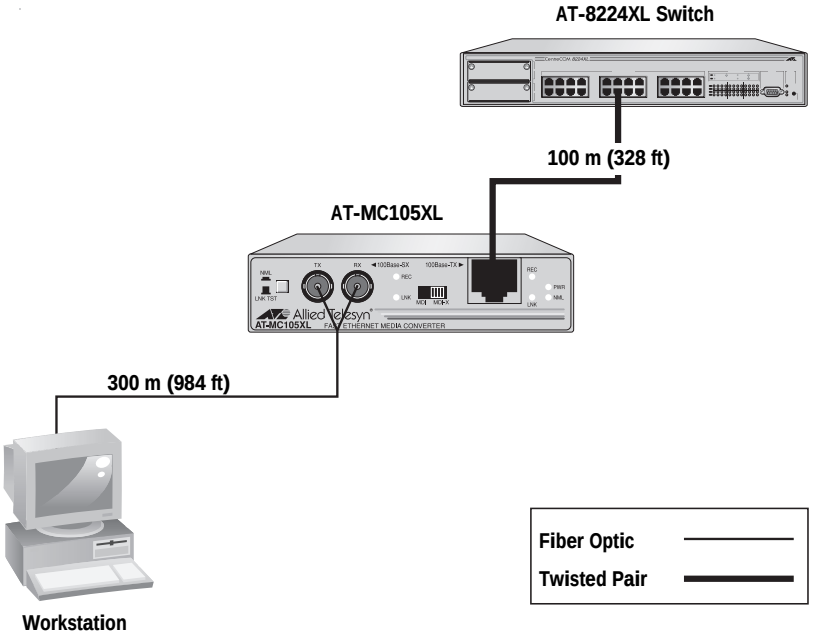

Figure 4 Standalone Topology

Back-to-Back Topology

In some network configurations you may want to interconnect two media converters in what is referred to as a back-to-back topology. In this topology, the media converters not only extend the distance of your network but also convert the fiber optic cable from twisted pair to fiber optic and back again. Figure 5 illustrates two AT-8224XL switches at different campuses interconnected by two AT-MC106XL media converters. The 100Base-TX ports on the media converters are connected to one 10/100Base-TX port on each switch, while the 100Base-SX ports on the media converters are directly connected together.

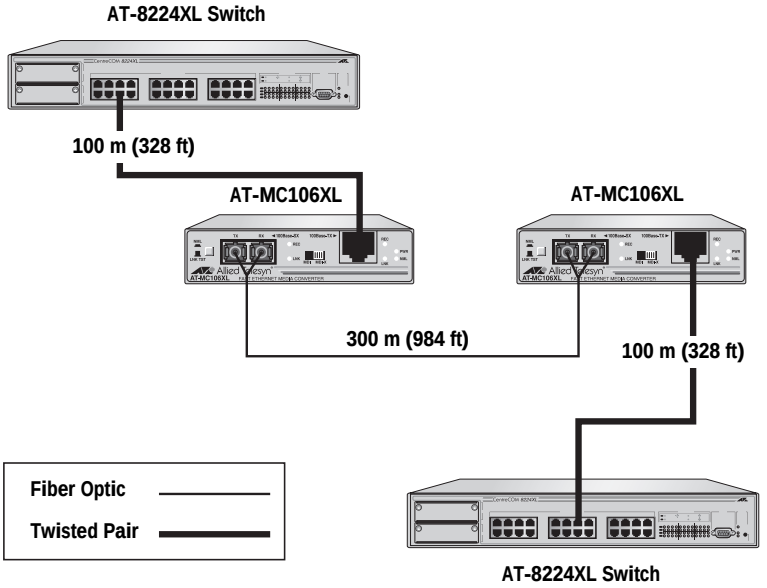

Figure 5 Back-to-Back Topology

Chapter 2
Installing the Media Converter

Verifying the Package Contents

Make sure the following items are included in your package. If any item is missing or damaged, contact your Allied Telesyn sales representative for assistance.

- ❑ One AT-MC105XL or AT-MC106XL Fast Ethernet Media Converter
- ❑ Four protective feet (for desktop use only)
- ❑ External power adapter
- ❑ This installation guide
- ❑ Warranty card

Planning the Installation

Be sure to observe the following guidelines when planning the installation of your media converter.

- ❑ The end-nodes connected to the ports on the media converter must be able to operate at 100 Mbps and half- or full-duplex mode.
- ❑ The twisted pair port cabling must be kept away from sources of electrical noise, such as radios, transmitters, power lines, broadband amplifiers electrical motors, and fluorescent fixtures.
- ❑ Refer to the following tables for the cabling specifications for the 100Base-TX and 100Base-SX ports.

Table 3 100Base-TX Twisted Pair Port Cabling Specifications

Operating Mode	Twisted Pair Cable	Maximum Operating Distance
100Base-TX	Shielded Category 5 or better	100 m (328 ft)

Table 4 100Base-SX Fiber Optic Port Cabling Specifications (Full-duplex)

Model	Fiber Optic Cable	Maximum Operating Distance	Maximum Allowable Loss Budget
AT-MC105XL and AT-MC106XL	50/125 or 62.5/125 micron multimode	300 m (984 ft)	1.5 dB at 850 nm

Note
For additional fiber optic port specifications, refer to "Fiber Optic Port Specifications" on page 16.

Selecting a Site

Be sure to observe the following requirements when choosing a site for your switch.

- ❑ Select a site that is dust-free and moisture-free.
- ❑ Be sure that the site will allow you to easily access the fiber optic and twisted pair cables and the power cord.
- ❑ Use a dedicated power circuit or a power conditioner to supply reliable power to the device.

Reviewing Safety Guidelines

Please review the following safety guidelines before installing the media converter.

Warning
This is a "Class 1 LED product". ☞ 7

Warning
Electrical Shock Hazard: To prevent electrical shock, do not remove the cover. There are no user-serviceable parts inside. The unit contains hazardous voltages and should only be opened by a trained and qualified technician. ☞ 8

Warning
Lightning Danger: Do not work on equipment or cables during periods of lightning activity. 9

Caution
Power to the hub must be sourced only from the adapter. 10

Caution
Pluggable Equipment: The socket outlet should be installed near the equipment and should be easily accessible. 11

Caution
Air vents: The air vents must not be blocked on the unit and must have free access to the room ambient air for cooling. 12

Caution
Operating Temperature
This product is designed for a maximum ambient temperature of 40 degrees C. 13

Caution
All Countries: Install product in accordance with local and National Electrical Codes. 14

Installing the Media Converter

To install an AT-MC105XL or AT-MC106XL media converter, perform the following procedure:

1. Remove all equipment from the package and store the packaging material in a safe place.

   Note
   Do not remove the dust cover from the fiber optic port until you are ready to connect the fiber optic cable. Dust contamination can adversely impact the operating performance of the port on the media converter.

2. If you are installing the media converter on a desktop, attach the four rubber feet to the bottom of the unit. **Do not attach the rubber feet if you are installing the unit in an AT-MCR12 chassis**.

3. If you are installing the media converter in an AT-MCR12 chassis, refer to the chassis's installation guide for instructions on how to install the unit, then proceed to Step 6.

4. Place the media converter on a flat, secure surface (such as a desk or table) leaving ample space around the unit for ventilation.

5. Plug the AC/DC power adapter into an appropriate AC power outlet and insert the power plug into the DC receptacle located on the back of the unit. **This step does not apply if you installed the unit in an AT-MCR12 chassis**.

6. Verify that the PWR LED is green. If the LED is OFF, refer to "Troubleshooting" on page 13 for instructions.

7. Remove the dust cover from the fiber optic connector and connect the cable to the 100Base-SX port. Verify that the media converter's transmitter port (TX) is connected to the end-node's receiver port (RX) and that the media converter's receiver port (RX) is connected to the end-node's transmitter port (TX).

8. Connect the twisted pair cable to the 100Base-TX port.

9. Set the MDI/MDI-X switch as follows:

   — If you are connecting a workstation to the 100Base-TX port, set the MDI/MDI-X switch to the **MDI-X** position. (MDI-X is the default.)

   — If you are connecting a hub or switch to the 100Base-TX port, set the MDI/MDI-X switch to the **MDI** position.

10. Power on the end-nodes.

11. Check that the LNK LEDs for both ports of the media converter are green. If the LEDs are OFF, refer to "Troubleshooting" on page 13.

The media converter is now ready for use.

Warranty Registration

When you finish installing the product, you should register your product by completing the enclosed warranty card and sending it in. You can also fill out the registration online by selecting "Warranties" under "Support & Services" at **www.alliedtelesyn.com**.

Chapter 3
Troubleshooting

Follow the guidelines below to test and troubleshoot the installation in the event of a problem occurs.

If the PWR LED is OFF, do the following;

- ❑ If the unit is installed on a desktop, check to be sure that the power adapter is securely connected to a power outlet and that the power adapter cable is securely connected to the back of the media converter.
- ❑ If the unit is installed in an AT-MCR12 chassis, check that the unit is fully seated in the slot.
- ❑ Verify that the power outlet has power by connecting another device to it.
- ❑ Try using another power adapter.

If the LNK LED for the twisted pair port is OFF, do the following:

- ❑ Check that the end-node connected to the port is powered ON and is operating properly.
- ❑ Check that the twisted pair cable is securely connected to the twisted pair port on the media converter and on the remote end-node.
- ❑ Make sure that the twisted pair cable does not exceed 100 meters (328 feet) and that you are using Category 5 or better cable.
- ❑ Verify that the end-node is operating at 100 Mbps.

If the LNK LED for the fiber optic port is OFF, do the following:

- ❑ Verify that the end-node connected to the port is ON and is operating properly.
- ❑ Check that the fiber optic cable is securely connected to the fiber optic port on the media converter and on the end-node.
- ❑ Verify that the end-node is operating at 100 Mbps.

- ❑ Make sure that the cable connected to the fiber optic receiver port (RX) on the media converter is connected to the transmitter port (TX) on the remote end-node and that the fiber optic transmitter port (TX) on the media converter is connected to the receiver port (RX) on the end-node.
- ❑ Test the attenuation on the fiber optic cable to ensure that it does not exceed acceptable values. Refer to "Fiber Optic Port Specifications" on page 16 for more information.
- ❑ Verify that you are using the appropriate type of fiber optic cable and that you have not exceeded the maximum operating distance. For cable types and operating distances, refer to Table 1 on page 2.
- ❑ Check that the operating specifications (e.g., wavelength and maximum operating distance) of the fiber optic port on the end-node are compatible with the operating specifications of the fiber optic port on the media converter. Refer to "Fiber Optic Port Specifications" on page 16 for information.

If there is a communication problem between the end-nodes connected to the media converter, do the following:

- ❑ Verify that both end-nodes are operating with the same duplex mode.

If you are still experiencing problems after testing and troubleshooting the installation, refer to "Contacting Allied Telesyn Technical Support" on page viii or visit our web site at **www.alliedtelesyn.com** for support information.

Appendix A

Technical Specifications

Physical

Dimensions:	W x D x H 10.5 cm x 9.5 cm x 2.5 cm (4.125 in x 3.75 in x 1.0 in)
Weight:	294 g (10.4 oz)

Temperature

Maximum Operating:	0° C to 40° C (32° F to 104° F)
Maximum Storage:	-20º C to 80º C (-4° F to 176° F)
Relative Humidity:	5% to 80% (non-condensing)
Operating Altitude:	Up to 3,048 meters (10,000 feet)

Electrical Rating

Input Supply Voltage:	12 V DC
Maximum Current:	500 mA
Power Consumption:	6W

Agency Compliance

EMI/RFI:	EN55022 Class B
Electrical Safety:	TUV-EN60950, UL60950 (UL/cUL)
Immunity:	EN55024

Fiber Optic Port Specifications

Table 5 through Table 8 lists the specifications for the 100Base-SX fiber optic port.

Table 5 Fiber Optic Transmitter

Model	Fiber Type[1]	Fiber Optic Diameter	Optical Frequency	Launch Power (dBm)[2]		
				Maximum	Average	Minimum
AT-MC105XL and AT-MC106XL	MMF	50/125 microns	850 nm	-13.0	-15.8	-18.8
	MMF	62.5/125 microns	850 nm	-10.0	-12.0	-15.0

1. MMF = Multimode Fiber.

2. The launch power is measured at one meter from the transmitter.

Table 6 Fiber Optic Receiver

Model	Fiber Type[1]	Fiber Optic Diameter	Optical Frequency	Receiver Power (dBm)		
				Maximum	Average	Minimum
AT-MC105XL and AT-MC106XL	MMF	50/125 microns or 62.5/125 microns	850 nm	-41.4	-43.0	-7.6

1. MMF = Multimode Fiber.

Table 7 Fiber Optic Datalink

Model	Fiber Type[1]	Fiber Optic Diameter	Optical Frequency	Minimum Power/ Link Budget	Average Signal Loss	Maximum Distance Spec[2]
AT-MC105XL and AT-MC106XL	MMF	50/125 microns	850 nm	26.40 dB	31.50 dB	300 m (984 ft)
	MMF	62.5/125 microns	850 nm	36.40 dB	40.0 dB	300 m (984 ft)

1. MMF = Multimode Fiber.

2. Half-duplex only.

Table 8 Fiber Optic Loss Specification (Benchmarks)

Fiber Type[1]	Fiber Optic Diameter	Optical Frequency	Typical Loss Factor	Worst Case Loss Factor	Bandwidth
MMF	50/125 microns	850 nm	3.00 dB/km	3.50 dB/km	400
MMF	62.5/125 microns	850 nm	3.00 dB/km	3.75 dB/km	200

1. MMF = Multimode Fiber.

Pinout Assignments

Figure 6 shows the pin assignments of the RJ-45 connector.

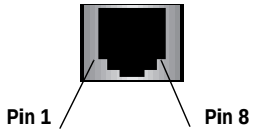

Figure 6 RJ-45 Pin Assignments

Table 9 lists the 100Base-TX connector pins and their signals when the port is operating in either MDI or MDI-X configuration.

Table 9 RJ-45 Pin Signals

MDI-X (Default)	Signal	MDI	Signal
1	RX+	1	TX+
2	RX-	2	TX-
3	TX+	3	RX+
4	-	4	-
5	-	5	-
6	TX-	6	RX-
7	-	7	-
8	-	8	-

Appendix B

Translated Safety and Emission Information

Important: This appendix contains multiple-language translations for the safety statements in this guide.

Wichtig: Dieser Anhang enthält Übersetzungen der in diesem Handbuch enthaltenen Sicherheitshinweise in mehreren Sprachen.

Vigtigt: Dette tillæg indeholder oversættelser i flere sprog af sikkerhedsadvarslerne i denne håndbog.

Belangrijk: Deze appendix bevat vertalingen in meerdere talen van de veiligheidsopmerkingen in deze gids.

Important: Cette annexe contient la traduction en plusieurs langues des instructions de sécurité figurant dans ce guide.

Tärkeää: Tämä liite sisältää tässä oppaassa esiintyvät turvaohjeet usealla kielellä.

Importante: questa appendice contiene traduzioni in più lingue degli avvisi di sicurezza di questa guida.

Viktig: Dette tillegget inneholder oversettelser til flere språk av sikkerhetsinformasjonen i denne veiledningen.

Importante: Este anexo contém traduções em vários idiomas das advertências de segurança neste guia.

Importante: Este apéndice contiene traducciones en múltiples idiomas de los mensajes de seguridad incluidos en esta guía.

Obs! Denna bilaga innehåller flerspråkiga översättningar av säkerhetsmeddelandena i denna handledning.

Standards: This product meets the following standards.

U.S. Federal Communications Commission

Declaration Of Conformity

Manufacture Name:	Allied Telesyn, Inc.
Manufacture Address:	960 Stewart Drive, Suite B Sunnyvale, CA 94085 USA
Manufacture Telephone:	408-730-0950
Declares that the product:	Ethernet Media Converters
Model Numbers:	AT-MC105XL, AT-MC106XL

This product complies with FCC Part 15B, Class B Limits:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radiated Energy

Note: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on. The user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission rules.

Industry Canada

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

1 **RFI Emission** EN55022 Class B

2 **Warning**: In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

3 **Immunity** EN55024

4 **Warning**: This product requires shielded cables to comply with emission and immunity standards. If it is used with unshielded cables, the user may be required to take measures to correct the interference problem at their own expense.

5 **Electrical Safety** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 This is a “CLASS 1 LED PRODUCT”

8 **Warning**
Electrical Shock Hazard: To prevent electrical shock, do not remove the cover. There are no user-servicable parts inside. The unit contains hazardous voltages and should only be opened by a trained and qualified technician.

Safety

9 **Lightning Danger**
Danger: Do not work on equipment or cables during periods of lightning activity.

10 Power to the hub must be sourced only from the adapter.

USA/Canada
Use a UL Listed/CSA Certified AC adapter of DC 12V

Europe - EU
Use TÜV licensed AC adapter of DC 12V, 500 mA.

UK
Use a UK Safety Approved AC adapter of DC 12 V, minimum 500 mA.

11 **Caution**
Pluggable Equipment: The socket outlet should be installed near the equipment ans should be easily accessible

12 **Caution**
Air vents: The air vents must not be blocked on the unit and must have free access to the room ambient air for cooling.

13 **Operating Temperature:** This product is designed for a maximum ambient temperature of 40 degrees C.

14 **All Countries**: Install product in accordance with local and National Electrical Codes.

Normen: Dieses Produkt erfüllt die Anforderungen der nachfolgenden Normen.

1 **Hochfrequenzstörung** EN55022 Klasse B

2 **Warnung**: Bei Verwendung zu Hause kann dieses Produkt Funkstörungen hervorrufen. In diesem Fall müßte der Anwender angemessene Gegenmaßnahmen ergreifen.

3 **Störsicherheit** EN55024

4 **Achtung**: Für dieses Produkt sind abgeschirmte Kabel erforderlich, damit den Richtlinien für Emission und Interferenzschutz entsprochen wird. Falls das Produkt mit nicht abgeschirmten Kabeln verwendet wird, können weitergehende Maßnahmen für die Korrektur von Interferenzproblemen auf Kosten des Benutzers notwendig werden.

5 **Elektrische Sicherheit** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Das ist ein “LED Produkt der Klasse 1”

8 **Achtung**: Gefährliche Spannung
Das Gehäuse nicht öffnen. Das Gerät enthält keine vom Benutzer wartbaren Teile. Das Gerät steht unter Hochspannung und darf nur von qualifiziertem technischem Personal geöffnet werden. Vor Anschluß der LAN-Kabel, Gerät vom Netz trennen.

Sicherheit

9 **Gefahr Durch Blitzschlag**
Gefahr: Keine Arbeiten am Gerät oder an den Kabeln während eines Gewitters ausführen.

10 Der Buchse darf nur aus dem Adapter Strom zugeführt werden.

Europe - EU
Gebrauchen Sie einen von TÜV zugelassenen Wechselstromadapter für Gleichstrom 12 V, 500 mA.

11 **Steckbares Gerät**: Die Anschlußbuchse sollte in der Nähe der Einrichtung angebracht werden und leicht zugänglich sein."

12 **Vorsicht**
Die Entlüftungsöffnungen dürfen nicht versperrt sein und müssen zum Kühlen freien Zugang zur Raumluft haben.

13 **Betriebstemperatur:** Dieses Produkt wurde für den Betrieb in einer Umgebungstemperatur von nicht mehr als 40° C entworfen.

14 **Alle Länder**: Installation muß örtlichen und nationalen elektrischen Vorschriften entsprechen.

Standarder: Dette produkt tilfredsstiller de følgende standarder.

1 **Radiofrekvens forstyrrelsesemission** EN55022 Klasse B

2 **Advarsel**: I et hjemligt miljø kunne dette produkt forårsage radio forstyrrelse. Bliver det tilfældet, påkræves brugeren muligvis at tage tilstrækkelige foranstaltninger.

3 **Immunitet** EN55024

4 **Advarsel**: Dette produkt skal bruges med afskærmede kabler for at overholde bestemmelserne vedrørende udstråling og støjimmunitet. Hvis det bruges med uafskærmede kabler, kan det blive påkrævet af brugeren at korrigere interferensproblemer for egen regning.

5 **Elektrisk sikkerhed** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Dette er et "PRODUKT UNDER KLASSE 1 LED"

8 **Elektriske Forholdsregler**
Advarsel: Risiko For Elektrisk Stød
For at forebygge ELEKTRISK stød, undlad at åbne apparatet. Der er ingen indre dele, der kan repareres af brugeren. Denne enhed indeholder LIVSFARLIGE STRØMSPÆNDINGER og bør kun åbnes af en uddannet og kvalificeret tekniker. For at undgå risiko for ELEKTRISK STØD, afbrydes den elektriske strøm til produktet, før LAN-kablerne monteres eller afmonteres.

Sikkerhed

9 **Fare Under Uvejr**
Fare: UNDLAD at arbejde på udstyr eller KABLER i perioder med LYNAKTIVITET.

10 Strømforsyningen til apparatet må udelukkende tages fra tilpasningstransformatoren.

Europe - EU
Brug kun TÜV godkendt vekselstrømstransformator på 12 V jævnstrøm, 500 mA.

11 Udstyr Til Stikkontakt, stikkontakten bør installeres nær ved udstyret og skal være lettilgængelig.rummet for afkøling.

12 **Advarsel**: Ventilationsåbninger må ikke blokeres og skal have fri adgang til den omgivende luft i rummet for afkøling.

13 **Betjeningstemperatur:** Dette apparat er konstrueret til en omgivende temperatur på maksimum 40 grader C.

14 **Alle Lande**: Installation af produktet skal ske i overensstemmelse med lokal og national lovgivning for elektriske installationer.

Eisen: Dit product voldoet aan de volgende eisen.

1 **RFI Emissie** EN55022 Klasse B

2 **Waarschuwing**: Binnenshuis kan dit product radiostoring veroorzaken, in welk geval de gebruiker verplicht kan worden om gepaste maatregelen te nemen.

3 **Immuniteit** EN55024

4 **Waarschuwing**: Om te voldoen aan de emissie- en immuniteitsnormen dient dit apparaat te zijn voorzien van afgeschermde kabels. Als het met niet-afgeschermde kabels wordt gebruikt, kan het zijn dat de gebruiker maatregelen moet treffen om interferentieproblemen voor eigen rekening op te lossen.

5 **Electrische Veiligheid** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Dit is een "KLASSE 1 LED-PRODUKT

8 **Waarschuwingen Met Betrekking Tot Elektriciteit**
Waarschuwing: GEVAAR VOOR ELEKTRISCHE SCHOKKEN Verwijder het deksel niet, teneinde ELEKTRISCHE schokken te voorkomen. Binnenin bevinden zich geen onderdelen die door de gebruiker onderhouden kunnen worden. Dit toestel staat onder GEVAARLIJKE SPANNING en mag alleen worden geopend door een daartoe opgeleide en bevoegde technicus. Om het gevaar op ELEKTRISCHE SCHOKKEN te vermijden, moet u het toestel van de stroombron ontkoppelen alvorens de LAN-kabels te koppelen of ontkoppelen.

Veiligheid

9 **Gevaar Voor Blikseminslag**
Gevaar: NIET aan toestellen of KABELS WERKEN bij BLIKSEM.

10 Stroom mag alleen via de adapter naar het apparaat toegevoerd worden.

Europe - EU
Gebruik een door TÜV gekeurde wisselstroomadapter van 12 Volt gelijkstroom, 500 milliampères.

11 Aan te sluiten apparatuur, de contactdoos wordt in de nabijheid van de apparatuur geïnstalleerd en is gemakkelijk te bereiken.

12 **Opgelet**: De ventilatiegaten mogen niet worden gesperd en moeten de omgevingslucht ongehinderd toelaten voor afkoeling.

13 **Bedrijfstemperatuur:** De omgevingstemperatuur voor dit produkt mag niet meer bedragen dan 40 graden Celsius.

14 **Alle Landen**: het toestel installeren overeenkomstig de lokale en nationale elektrische voorschriften.

Normes: ce produit est conforme aux normes de suivantes:

1 **Emission d'interférences radioélectriques** EN55022 Classe B

2 **Mise En Garde**: dans un environnement domestique, ce produit peut provoquer des interférences radioélectriques. Auquel cas, l'utilisateur devra prendre les mesures adéquates.

3 **Immunité** EN55024

4 **Avertissement**: Il faut utiliser des câbles blindés pour ce produit afin de respecter les normes d'émission et d'immunité. Si l'utilisateur choisit d'utiliser des câbles non blindés, il sera peut-être contraint de prendre les mesures nécessaires pour corriger les problèmes d'interférences, ainsi que d'assumer le coût correspondant.

5 **Sécurité électrique** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Ce matériel est un “PRODUIT À DIODE ÉLECTROLUMINESCENTE DE CLASSE 1”

8 **Information Sur Les Risques Électriques**
Avertissement: DANGER D’ÉLECTROCUTION
Pour éviter toute ÉLECTROCUTION, ne pas ôter le revêtement protecteur du matériel. Ce matériel ne contient aucun élément réparable par l’utilisateur. Il comprend des TENSIONS DANGEREUSES et ne doit être ouvert que par un technicien dûment qualifié. Pour éviter tout risque d’ÉLECTROCUTION, débrancher le matériel avant de connecter ou de déconnecter les câbles LAN.

Sécurité

9 **Danger De Foudre**
Danger: NE PAS MANIER le matériel ou les CÂBLES lors d'activité orageuse.

10 L’alimentation du concentrateur doit être uniquement fournie par l’adaptateur.

Europe - EU
Utiliser un adaptateur secteur conforme TÜV de 12 V, 500 mA en courant continu.

11 Equipement pour branchement electrique, la prise de sortie doit être placée près de l’équipement et facilement accessible”.

12 **Attention**: Ne pas bloquer les fentes d’aération, ceci empêcherait l’air ambiant de circuler librement pour le refroidissement.

13 **Température De Fonctionnement:** Ce matériel est capable de tolérer une température ambiante maximum de 40 degrés Celsius.

14 **Pour Tous Pays**: Installer le matériel conformément aux normes électriques nationales et locales.

Standardit: Tämä tuote on seuraavien standardien mukainen.

1 **Radioaaltojen häirintä** EN55022 Luokka B

2 **Varoitus**: Kotiolosuhteissa tämä laite voi aiheuttaa radioaaltojen häiröitä, missä tapauksessa laitteen käyttäjän on mahdollisesti ryhdyttävä tarpeellisiin toimenpiteisiin.

3 **Kestävyys** EN55024

4 **Varoitus**: Tämä tuote vaatii suojattuja kaapeleita toimiakseen emissio- ja häiriönsietostandardien mukaisesti. Jos tuotetta käytetään ilman suojattuja kaapeleita, käyttäjä voi joutua korjaamaan häirinnän aiheuttaman ongelman omalla kustannuksellaan.

5 **Sähköturvallisuus** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Tämä on “ENSIMMÄISEN LUOKAN VALODIODITUOTE”

8 **Sähköön Liittyviä Huomautuksia**
Varoitus: Sähköiskuvaara
Estääksesi SÄHKÖISKUN älä poista kantta. Sisällä ei ole käyttäjän huollettavissa olevia osia. Tämä laite sisältää VAARALLISIA JÄNNITTEITÄ ja sen voi avata vain koulutettu ja pätevä teknikko. Välttääksesi SÄHKÖISKUN mahdollisuuden katkaise sähkövirta tuotteeseen ennen kuin liität tai irrotat paikallisverkon (LAN) kaapelit.

Turvallisuus

9 **Salamaniskuvaara**
Engenvaara: ÄLÄ TYÖSKENTELE laitteiden tai KAAPELEIDEN KANSSA SALAMOINNIN AIKANA.

10 Tähtipisteeseen (hub) syötettävän virran pitää tulla ainoastaan sovittimesta.

Europe - EU
Käytä TÜV-lisenssillä valmistettua verkkosovitinta, jonka tasajännitteen nimellisarvot ovat DC 12 V, 500 mA (milliampeeria).

11 Pistorasiaan kytkettävä laite; pistorasia on asennettava laitteen lähelle ja siihen on oltava esteetön pääsy."

12 **Huomautus**: Ilmavaihtoreikiä ei pidä tukkia ja niillä täytyy olla vapaa yhteys ympäröivään huoneilmaan, jotta ilmanvaihto tapahtuisi.

13 **Käyttölämpötila:** Tämä tuote on suunniteltu ympäröivän ilman maksimilämpötilalle 40° C.

14 **Kaikki Maat**: Asenna tuote paikallisten ja kansallisten sähköturvallisuusmääräysten mukaisesti.

Standard: Questo prodotto è conforme ai seguenti standard.

1 **Emissione RFI (interferenza di radiofrequenza)** EN55022 Classe B

2 **Avvertenza**: in ambiente domestico questo prodotto potrebbe causare radio interferenza. In questo caso potrebbe richiedersi all'utente di prendere gli adeguati provvedimenti.

3 **Immunità** EN55024

4 **Avvertenza**: questo prodotto, se utilizzato con cavi schermati, è conforme alle norme sulle emissioni e sull'immunità. In caso di uso senza cavi schermati, l'utente può dover adottare a proprie spese misure correttive contro le interferenze.

5 **Sicurezza Elettrica** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Questo è un "PRODOTTO CON LED DI CLASSE 1"

8 **Avvertenze Elettriche**
Attenzione: PERICOLO DI SCOSSE ELETTRICHE Per evitare SCOSSE ELETTRICHE non asportare il coperchio. Le componenti interne non sono riparabili dall'utente. Questa unità ha TENSIONI PERICOLOSE e va aperta solamente da un tecnico specializzato e qualificato. Per evitare ogni possibilità di SCOSSE ELETTRICHE, interrompere l'alimentazione del dispositivo prima di collegare o staccare i cavi LAN.

Norme Di Sicurezza

9 **Pericolo Di Fulmini**
Pericolo: NON LAVORARE sul dispositivo o sui CAVI durante PRECIPITAZIONI TEMPORALESCHE.

10 Questo dispositivo deve essere alimentato solo mediante l'adattatore.

Europe - EU
Utilizzare l'adattatore per c.a. da 12 V c.c. e 500 mA conforme alla normativa TÜV.

11 Apparecchiatura collegabile, la presa va installata vicino all'apparecchio per risultare facilmente accessibile".

12 **Attenzione**: le prese d'aria non vanno ostruite e devono consentire il libero ricircolo dell'aria ambiente per il raffreddamento.

13 **Temperatura Di Funzionamento:** Questo prodotto è concepito per una temperatura ambientale massima di 40 gradi centigradi.

14 **Tutti I Paesi**: installare il prodotto in conformità delle vigenti normative elettriche nazionali.

Sikkerhetsnormer: Dette produktet tilfredsstiller følgende sikkerhetsnormer.

1 **RFI stråling** EN55022 Klasse B

2 **Advarsel**: Hvis dette produktet benyttes til privat bruk, kan produktet forårsake radioforstyrrelse. Hvis dette skjer, må brukeren ta de nødvendige forholdsregler.

3 **Immunitet** EN55024

4 **Advarsel**: Dette produktet må brukes med vernede kabler for å tilfredsstille emisjons- og fritakelsesstandarder. Dersom produktet brukes med uvernede kabler, må brukeren muligens rette forstyrrelsesproblemene for egen regning.

5 **Elektrisk Sikkerhet** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Dette er et "KLASSE 1 LED PRODUKT"

8 **Elektrisitet**
Advarsel: FARE FOR ELEKTRISK SJOKK For å unngå ELEKTRISK sjokk, må dekslet ikke tas av. Det finnes ingen deler som brukeren kan reparere på innsiden. Denne enheten inneholder FARLIGE SPENNINGER, og må kun åpnes av en faglig kvalifisert tekniker. For å unngå ELEKTRISK SJOKK må den elektriske strømmen til produktet være avslått før LAN-kablene til- eller frakobles.

Sikkerhet

9 **Fare For Lynnedslag**
Fare: ARBEID IKKE på utstyr eller KABLER i TORDENVÆR.

10 All strømtilførsel må komme fra adapteren.

Europe - EU
Benytt TÜV-godkjent AC-adapter på 12V DC, 500mA (millismpere)

11 Utstyr for stikkontakt. Stikkontakten skal monteres i nærheten av utstyret og skal være lett tilgjengelig."

12 **Forsiktig**: Lufteventilene må ikke blokkeres, og må ha fri tilgang til luft med romtemperatur for avkjøling.

13 **Driftstemperatur:** Dette produktet er konstruert for bruk i maksimum romtemperatur på 40 grader celsius.

14 **Alle Land**: Produktet må installeres i samsvar med de lokale og nasjonale elektriske koder.

Padrões: Este produto atende aos seguintes padrões.

1 **Emissão De Interferência**
De Radiofrequência EN55022 Classe B

2 **Aviso**: Num ambiente doméstico este produto pode causar interferência na radiorrecepção e, neste caso, pode ser necessário que o utente tome as medidas adequadas.

3 **Imunidade** EN55024

4 **Advertência**: Este produto requer a utilização de cabos blindados para cumprimento dos standards de limites de emissão e imunidade. Se o produto for utilizado com cabos não blindados, o utilizador poderá necessitar de tomar medidas para correcção de problemas de interferência, por sua própria conta.

5 **Segurança Eléctrica** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Este é um "PRODUTO CLASSE 1 LED"

8 **Avisos Sobre Características Elétricas**
Atenção: PERIGO DE CHOQUE ELÉTRICO Para evitar CHOQUE ELÉTRICO, não retire a tampa. Não contém peças que possam ser consertadas pelo usuário. Este aparelho contém VOLTAGENS PERIGOSAS e só deve ser aberto por um técnico qualificado e treinado. Para evitar a possibilidade de CHOQUE ELÉTRICO, desconecte o aparelho da fonte de energia elétrica antes de conectar e desconectar os cabos da LAN.

Segurança

9
Perigo De Choque Causado Por Raio
Perigo: NÃO TRABALHE no equipamento ou nos CABOS durante períodos suscetíveis a QUEDAS DE RAIO.

10 Use somente o adaptador fornecido para alimentação elétrica do hub.

Europe - EU
Use um adaptador de corrente alternada com saída DC de 12V e 500mA em conformidade com as especificações da TÜV.

11 Equipamento de ligação, a tomada eléctrica deve estar instalada perto do equipamento e ser de fácil acesso."

12 **Cuidado**: As aberturas de ventilação não devem ser bloqueadas e devem ter acesso livre ao ar ambiente para arrefecimento adequado do aparelho.

13 **Temperatura De Funcionamento:** Este produto foi projetado para uma temperatura ambiente máxima de 40 graus centígrados.

14 **Todos Os Países**: Instale o produto de acordo com as normas nacionais e locais para instalações elétricas.

Estándares Este producto cumple con los siguientes estándares.

1
Emisión RFI EN55022 Clase B

2 **Advertencia**: en un entorno doméstico, este producto puede causar radiointerferencias, en cuyo caso, puede requerirse del usuario que tome las medidas que sean convenientes al respecto.

3 **Inmunidad** EN55024

4 **Advertencia**: Este producto exige cables protectores para ajustarse a las normas de emisión e inmunidad. Si se utiliza con cables sin protección, el usuario tendrá que correr con los gastos por las medidas a tomar en caso de problemas de interferencias.

5 **Seguridad Eléctrica** TUV-EN60950, UL60950 (UL/cUL)

6
Laser/LED EN60825

7 Este es un "PRODUCTO DE DIODO LUMINISCENTE (LED) CLASE 1"

8 **Avisos Electricos**
Advertencia: PELIGRO DE ELECTROCHOQUE Para evitar un ELECTROCHOQUE, no quite la tapa. No hay ningún componente en el interior al cual puede prestar servicio el usuario. Esta unidad contiene VOLTAJES PELIGROSOS y sólo deberá abrirla un técnico entrenado y calificado. Para evitar la posibilidad de ELECTROCHOQUE desconecte la corriente eléctrica que llega al producto antes de conectar o desconectar los cables LAN.

Seguridad

9
Peligro De Rayos
Peligro: NO REALICE NINGUN TIPO DE TRABAJO O CONEXION en los equipos o en LOS CABLES durante TORMENTAS ELECTRICAS.

10 La energía para el dispositivo central o "hub" debe provenir únicamente del adaptador.

Europe - EU
Utilizar un adaptador de corriente alterna autorizado TÜV de 12 voltios de corriente continua y 500 miliamperios.

11 Equipo conectable, el tomacorriente se debe instalar cerca del equipo, en un lugar con acceso fácil".

12 **Atencion**: Las aberturas para ventilación no deberán bloquearse y deberán tener acceso libre al aire ambiental de la sala para su enfriamiento.

13 **Temperatura Requerida Para La Operación:** Este producto está diseñado para una temperatura ambiental máxima de 40 grados C.

14 **Para Todos Los Países**: Monte el producto de acuerdo con los Códigos Eléctricos locales y nacionales.

Standarder: Denna produkt uppfyller följande standarder.

1 **Radiostörning** EN55022 Klass B

2 **Varning**: Denna produkt kan ge upphov till radiostörningar i hemmet, vilket kan tvinga användaren till att vidtaga erforderliga åtgärder.

3 **Immunitet** EN55024

4 **Varning**! Denna produkt kräver skärmade kablar för att uppfylla standardkraven för emission och immunitet. Om den används med oskärmade kablar kan användaren vara tvungen att vidta åtgärder på egen bekostnad för att åtgärda störningsproblemet.

5 **Elsäkerhet** TUV-EN60950, UL60950 (UL/cUL)

6 **Laser/LED** EN60825

7 Detta är en "KLASS 1 LYSDIODPRODUKT"

8 **Tillkännagivanden Beträffande Elektricitetsrisk**:
RISK FÖR ELEKTRISK STÖT För att undvika ELEKTRISK stöt, ta ej av locket. Det finns inga delar inuti som behöver underhållas. Denna apparat är under HÖGSPÄNNING och får endast öppnas av en utbildad kvalificerad tekniker. För att undvika ELEKTRISK STÖT, koppla ifrån produktens strömanslutning innan LAN-kablarna ansluts eller kopplas ur.

Säkerhet

9 **Fara För Blixtnedslag**
Fara: ARBETA EJ på utrustningen eller kablarna vid ÅSKVÄDER.

10 Endast anslutningsenheten får vara kraftkälla till centralen.

Europe - EU
Använd en växelströmsanslutningsenhet licensierad av TÜV. Likström 12V, 500mA.

11 Utrustning med plugg. Uttaget skall installeras i utrustningens närhet och vara lättåtkomligt".

12 **Varning**: Luftventilerna får ej blockeras och måste ha fri tillgång till omgivande rumsluft för avsvalning.

13 **Driftstemperatur:** Denna produkt är konstruerad för rumstemperatur ej överstigande 40 grader Celsius.

14 **Alla Länder**: Installera produkten i enlighet med lokala och statliga bestämmelser för elektrisk utrustning.